SPIRIT

Water purifier

Complete User Manual

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Contents

INTRODUCTION 03
- About this manual 03
- Limited warranty 03
- Environment information 03
- Disposal 03
- Safety instructions 03
- Safety information 04

PRODUCT OVERVIEW 05
- Spirit outside 05
- Spirit inside 06
- Move the water purifier 06

SYSTEM OVERVIEW 07
- System description 07
- Intended use 07
- Water production 08
- Leak protection system 08

INSTALLATION 09
- Before installation 09
- Position Spirit 10
- Install clean water faucet 10
- Install feed water connection 11
- Install drain water connection 11
- Connect the water purifier 11
- After installation 12

MAINTENANCE 13
- Each month 13
- Each 4-6 months 14
- Each year 17
- Other 17

TECHNICAL INFORMATION 21
- Technical data 21
- Requirements on feed water to water purifier 21

TROUBLESHOOTING 22

INTRODUCTION

About this manual

This manual contains complete user instructions for the Spirit. It gives you the necessary instructions to safely install, operate, do maintenance and do troubleshooting on the device.

Original language

The original language of this instruction is English, all other languages are translations of the original instruction.

Printing options

This manual is made to be printed as a double sided A4 or A5 booklet.

Limited warranty

Refer to www.bluewatergroup.com for more information on Limited warranty.

Environment information

80% of the the water purifier components and its packaging have a label to help you recycle and discard it correctly. The water purifier is more efficient when it cleans water for longer periods. Example: do not fill a glass with water. Fill a jug instead.

Disposal

At the end of the water purifier's life, disconnect the plug from the electrical supply and cut the cable at the point where it enters the appliance. Make sure that children do not play with the left-over cable. Contact your local authority for information about where the water purifier can be left, or contact your dealer.

Appliances bearing this symbol must be deposited at the designated local reception point for the disposal of electrical and electronic equipment. This product may not be disposed of using the normal household refuse collection processes.

Safety instructions

Before you install or operate the device, you must read the safety information. Obey the instructions in this manual to prevent injuries or damage to the equipment. This manual contains CAUTIONS and NOTICES that are applicable for the safe operation of the device.

A CAUTION identifies conditions that can cause injury or, damage to the equipment. Obey the instructions and do not continue until all conditions are accepted and engaged.

A Note identifies important information for a trouble free and optimal use of the water purifier.

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Safety information

Install the water purifier in accordance with local regulations. If you are not sure, contact a Bluewater dealer for aid. Bluewater has no responsibility for installation of the water purifier.

Do not drink the water when the service light shows that it is not clean. Store water in vessels that are resistant to corrosion.

This appliance can be used by children who are more than 8 years old. It can also be used by persons with reduced physical, sensory or mental capabilities or lack of experience and knowledge, if they have been given supervision or instruction about the use of the appliance in a safe way and understand the hazards involved.
Children shall nor play with the appliance. Cleaning and user maintenance shall not be made by children without supervision.

Do not repair or modify parts of the water purifier. This can make it operate incorrectly, and lead to injury and damage not covered by the warranty.

Only approved Bluewater staff can do servicing and repairs on the water purifier. Only use original replacement cartridges and parts from Bluewater.

The water to be cleaned must obey the requirements in "Technical information". Check the cleaned water when the water purifier is installed if the water does not obey these requirements. Test the water one time every year. If the water is not clean, do not drink it. Contact a Bluewater dealer.

Installation must comply with applicable local plumbing codes and regulations.

Only connect the water purifier to one clean water faucet supplied by Bluewater. Do not connect it to other pipes, tanks or dishwashers.

Do not put or keep objects on top of the water purifier.
Do not put the water purifier in water.

Connect the water purifier to an earthed electrical supply. Use a plug that is easy to access after installation. Only an approved electrician must do permanent wiring on the system. A safety switch must be installed on the system. Incorrect installation can lead to damage, or make the water purifier dangerous to use.

Do not use the power cord if there are visible signs of damage on it. If the power cord is damaged, a qualified electrician must replace it in order to prevent danger.

If the water purifier is disconnected from water and electricity for more than a week, store it as described in Complete User manual "Storage".

PRODUCT OVERVIEW

Model	Spirit 300	Electronically controlled
	Spirit 300Cp	Pressure controlled

Spirit outside

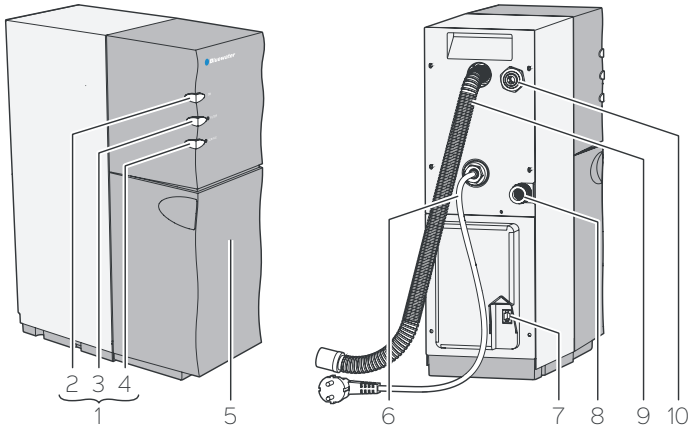

Figure 1. Spirit outside

Pos	Description	Pos	Description
1	Control panel	6	Power cord
2	On light	7	Electrical connection for faucet (Spirit 300)
3	Filter light	8	Feed water connection with grid filter
4	Service light	9	Drain water hose
5	Front cover	10	Clean water connection

Control panel

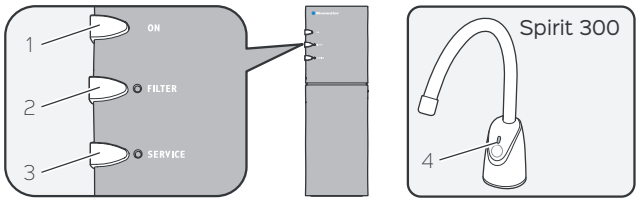

Figure 2. Control panel

Pos	Light	Description	
1	ON	The water purifier is connected and operates correctly.	
2	Filter light	Flashes On	The water purifier operates. The filter must be replaced. The water purifier has stopped. The filter must be replaced.
3	Service light	Flashes On	Decreased water quality. The water purifier has stopped, the water quality has decreased.
4	Faucet lights Spirit 300 Spirit 300Cp N/A	Green Yellow Yellow	Shows good water quality (this can take up to 120 seconds). Flashes: Something is wrong. Look at the control panel. On: The water purifier has stopped, the water quality has decreased.

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Spirit inside

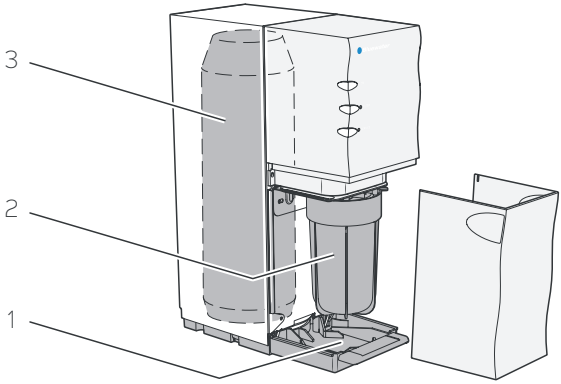

Figure 3. Spirit inside

Pos	Description	Pos	Description
1	Base plate	3	Reverse osmosis membrane
2	Prefilter (Granulated Active Carbon (GAC))		

Data plate

The data plate is located behind the filter.

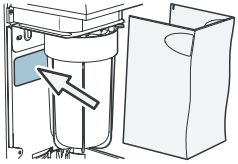

Figure 4. Data plate

Move the water purifier

Always transport the water purifier upright.
Install according to “Installation” on page 09.

Put the water purifier into storage if it will not be used for four months or more, or if it is to be disconnected from the water and electricity for some days, see “Put into storage” on page 19.

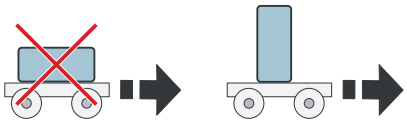

Figure 5. Move the water purifier

SYSTEM OVERVIEW

System description

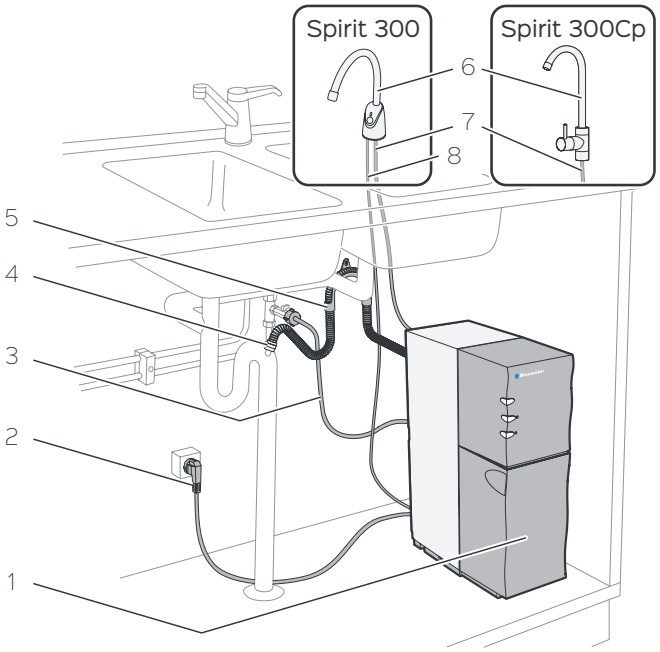

Figure 6. System overview

Pos	Description	Pos	Description
1	Water purifier	5	Bracket for drain water hose
2	Power cord	6	Clean water faucet
3	Feed water hose	7	Clean water hose
4	Drain water hose	8	Faucet electrical connection (Spirit 300)

Intended use

The water purifier is intended to produce purified water. Do not use it for any other purpose. Any use beside indoor home environment and for purposes other than purifying water for household use is considered as unintended use and will automatically void your warranty.
The electronically controlled Spirit 300 is intended to produce the quantity of water that is normally required for cooking and drinking in a household. The pressure controlled Spirit 300Cp can be connected to other devices such as dishwashers.

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Water production

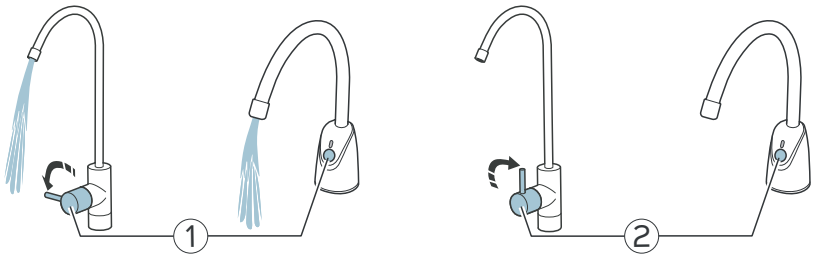

Figure 7. Water production on/off

Automatic flush

An automatic flush will be performed if one of the conditions below are fulfilled:

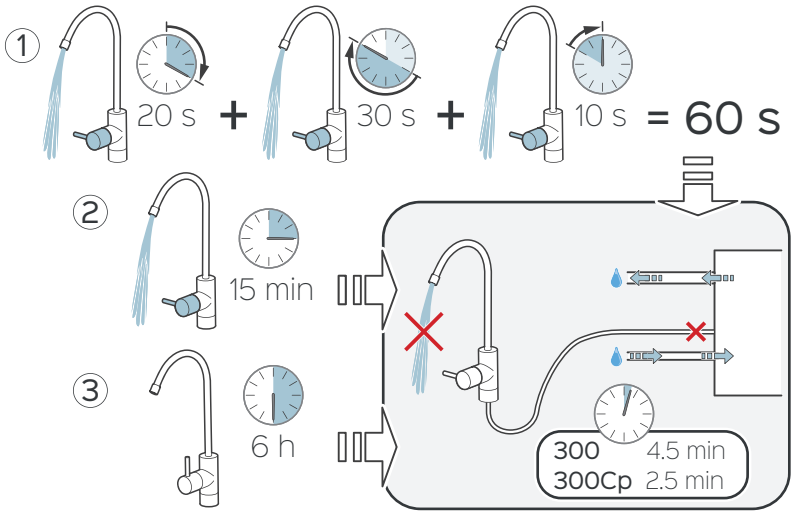

Figure 8. Automatic flushing

Pos	Description
1	Flush after drawing water. Production cycles shorter than 60 seconds are added together, and flush takes place when total drawing time exceeds 60 seconds.
2	Flush after maximum operation time 15 minutes. Next production cycle can be started immediately after completed flush..
3	Water purifier in standby mode. Spirit is connected to water and power and It is more than 6 hours since the last flush.

Leak protection system

A sensor at the bottom of the water purifier senses water leaks. If there is a leak, the feed water supply is stopped. The water purifier cannot be started again until the leak has been repaired.

INSTALLATION

Install the water purifier in accordance with local regulations. If you are not sure, contact a Bluewater dealer for aid. Bluewater has no responsibility for installation of the water purifier.

Install the water purifier in a vertical position on a horizontal surface. Make sure that hoses and cables can move freely when the purifier is moved.

Only connect the water purifier (only Spirit 300) to one clean water faucet supplied by Bluewater. Do not connect it to other pipes, tanks or dishwashers.

Plumbing must be done by an approved plumber. Obey local rules for plumbing and sanitation if you do work yourself.

Use the hose set that is supplied with the water purifier. Do not use used hose sets again.

Before installation

Unpack Spirit

Hold the rear handgrip and the plastic bag to lift Spirit. To hold in other places when Spirit is lifted can cause damage to Spirit.
Warning! Discard the packing material. It can cause injury to children if they play with it.

Make sure that Spirit shows no signs of damage, and that no accessories are missing. Tell the Bluewater dealer about missing parts, damage and other problems. Tell the transport company immediately if Spirit is damaged during transport.

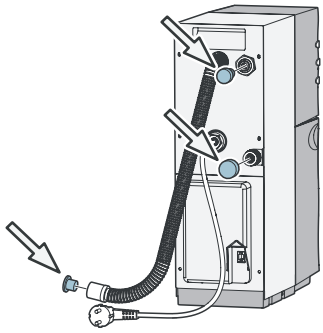

Figure 9. Remove the plugs

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Position Spirit

Put Spirit in a vertical position on a horizontal surface below the kitchen sink. Make sure that the surface can support Spirit

Position Spirit near the cold water supply, the drain and an earthed electrical supply.

- Make sure that it is easy to see the control panel.
- Make sure that the front cover can be opened to get access to the prefilter.
- Hoses and cables can go in all directions from the connection point. Make sure that nothing can crush them or cause damage to them.

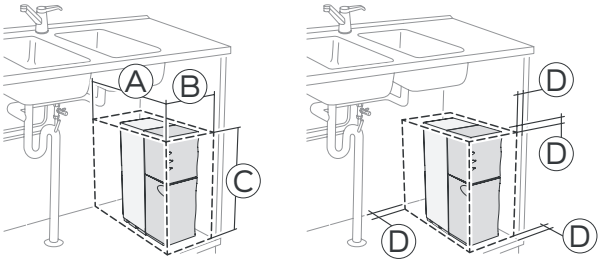

Figure 10. Position Spirit under the kitchen sink

Pos	Description	Pos	Description
A	460 mm	C	482 mm
B	190 mm	D	min. 20 mm

Install clean water faucet

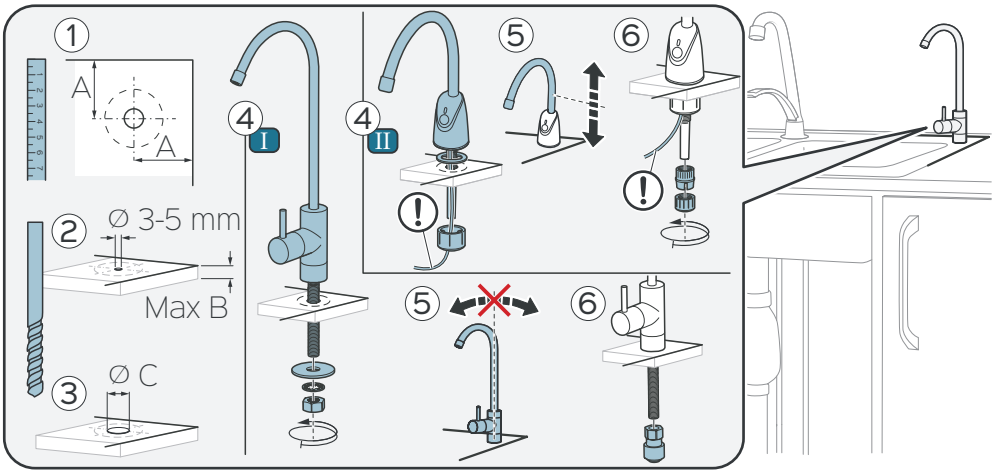

Figure 11. Install clean water faucet

Measurement	Quarterturn	Electrical
A	The measurement A is found in the specification that comes with the clean water faucet.	
B	35 mm	40 mm
C	16 mm	20 mm

Install feed water connection

The water purifier is connected to cold water (2 - 40 °C) via the feed water hose.

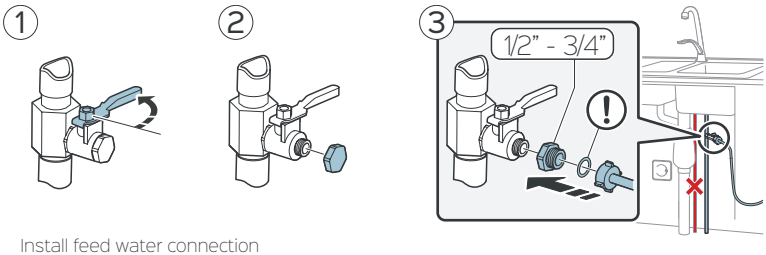

Figure 12. Install feed water connection

Install drain water connection

The flushed water goes through the drain water hose to the drain water outlet. This hose can be a maximum of four meters long. The minimum internal diameter is 13 mm.

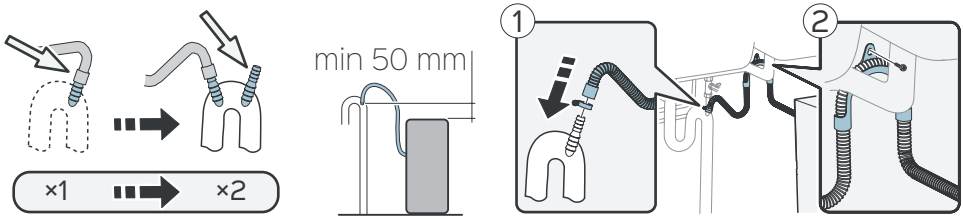

Figure 13. Install drain water connection

Connect the water purifier

Do not connect the clean water hose to equipment before Spirit has been flushed.

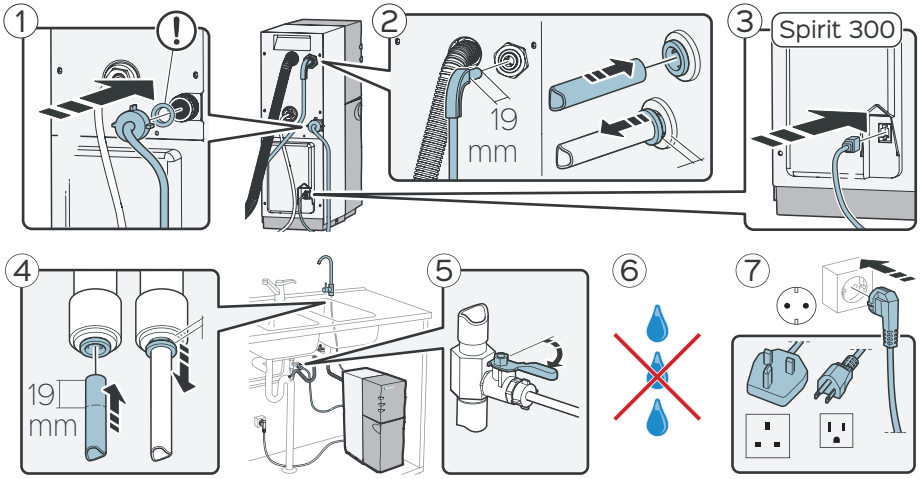

Figure 14. Connect the water purifier

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After installation

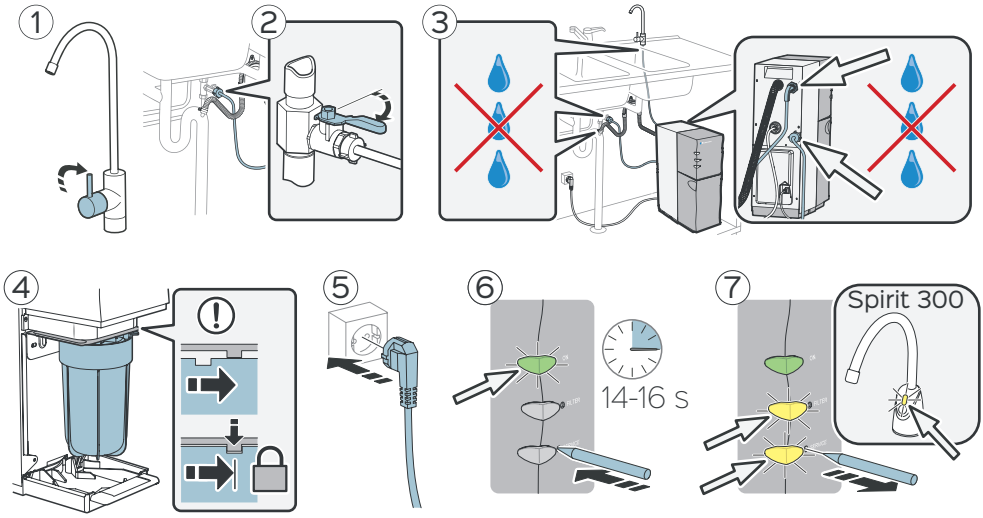
When Spirit is installed, and after each maintenance, the following procedures must be perfomed before operation.

Flush Spirit

Do not drink the water when the water purifier flushes. It is not safe to use.

The water purifier should always be flushed:

- when it is new and has not been used,
- when it is installed again after storage/freeze protection
- when it has been cleaned
- when the membrane has been replaced.



Open the clean water valve immediately when the service button is released. If not, the Spirit can be damaged.

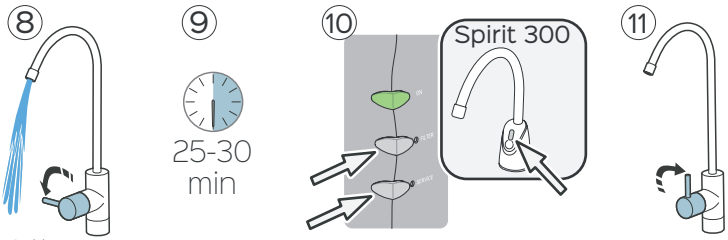


Figure 15. Flush Spirit

Do a check for leaks

See “Do a check for leaks” on page 13.

MAINTENANCE

After each maintenance, all procedures in chapter “After installation” on page 12, must be perfomed before operation.

Regular maintenance is important for correct function and long term operation. Only educated and approved personnel can do the maintenance.

The water quality controls the maintenance frequency. If the feed water contains high levels of suspended solids, more frequent maintenance can be necessary.

Each month

Do a check for leaks

The tubing connections must be tight!

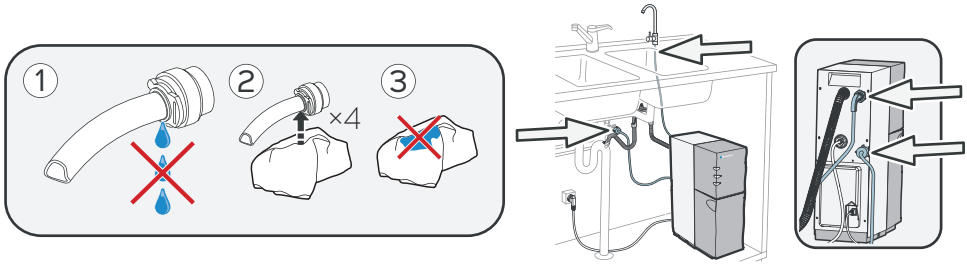


Figure 16. Check for leaks

Repair leaks

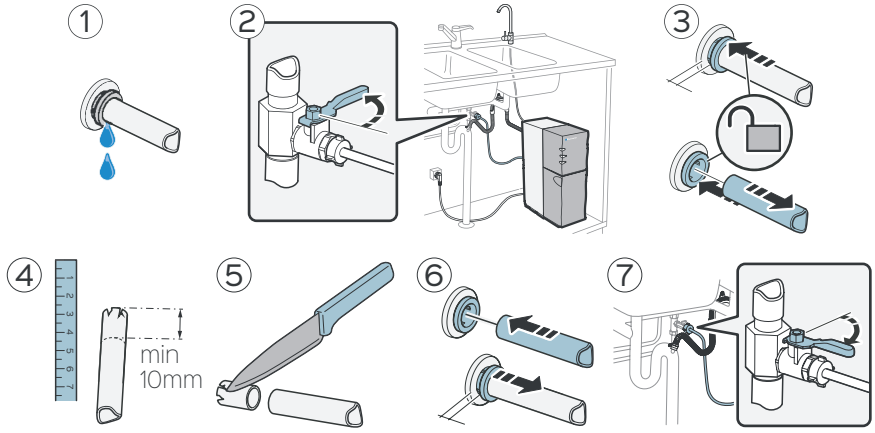


Figure 17. Repair leaks

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Wipe off condensation from base plate

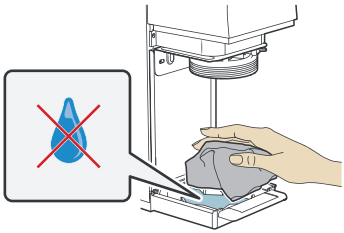


Figure 18. Wipe off condensation from base plate

Each 4-6 months

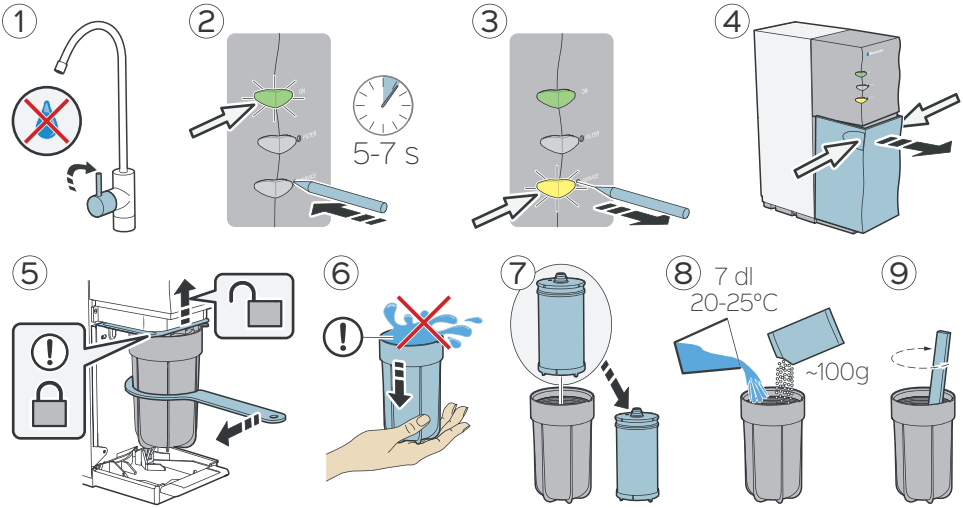
Descale

The descaling product is harmful. Keep it where children cannot get it. Clean your hands when you have used it.

Frequency depending on water quality and usage!
To extend the water purifier lifetime: Descale Spirit with 6 month intervals or when the flow is decreased.

If Spirit has been descaled and the filters have been replaced, but the water flow cannot be restored, contact your Bluewater dealer.

The descale takes approximately 10 hours. Do not use the water purifier during this time. Order the descaling product from Bluewater



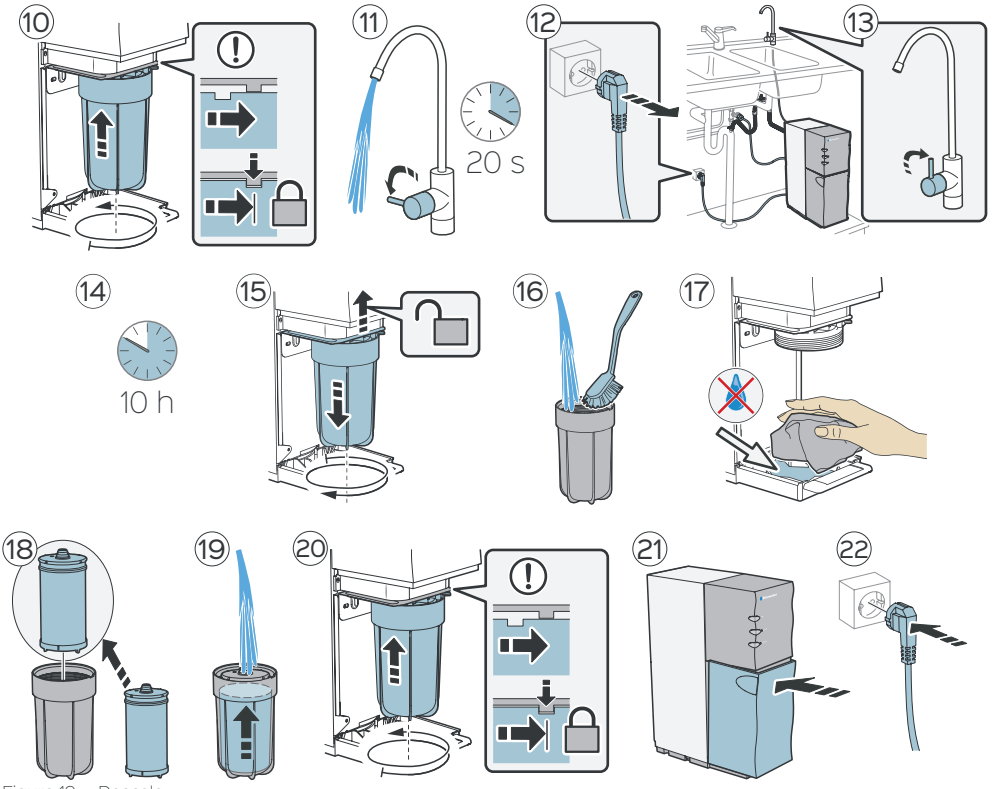


Figure 19. Descale

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Always flush the water purifier after the prefilter is replaced. See “Flush Spirit” on page 12.

If the filter is replaced before the fillter light shows that it is necessary, reset Spirit as given in step 14. The filter light will go on and then go out when Spirit is started.

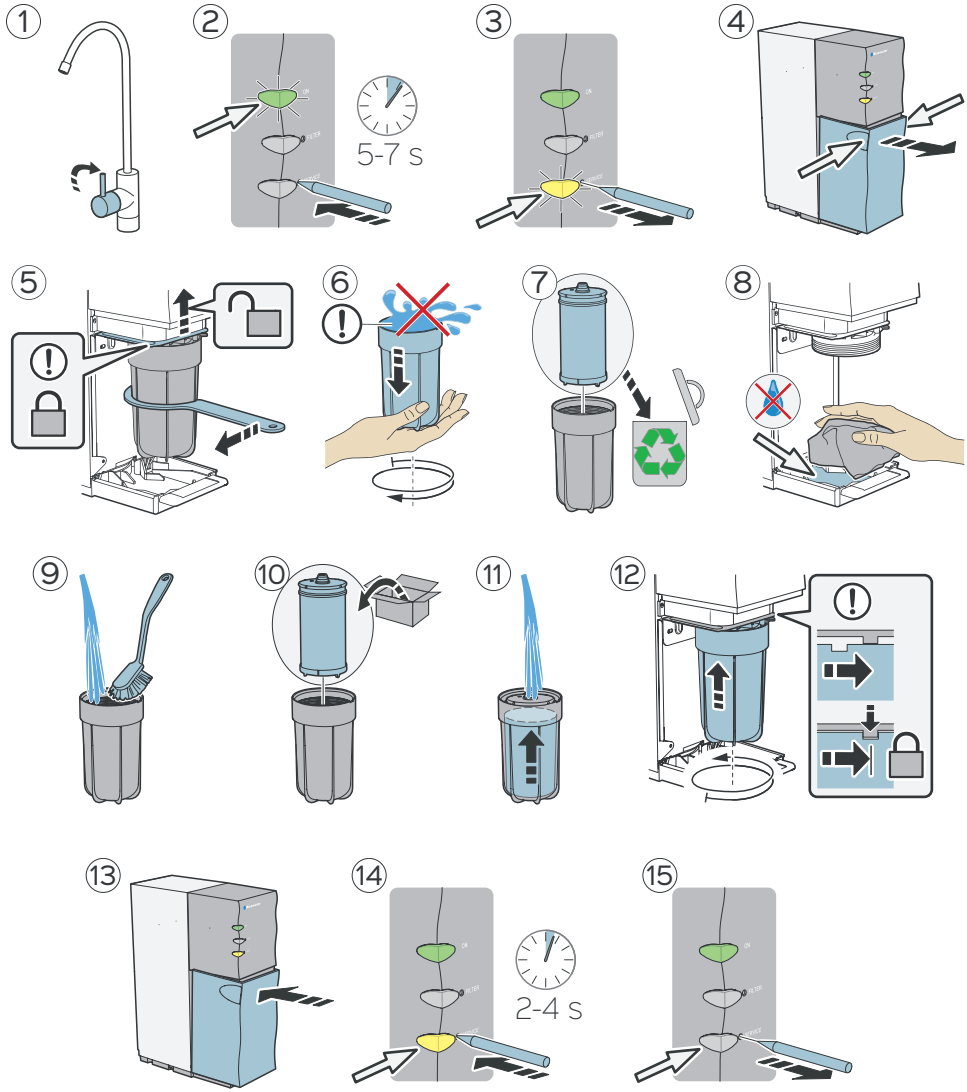

Figure 20. Replace prefilter

Each year

Test the water

An approved lab must do a test of the water that is cleaned by Spirit one time each year, if the feed water has been classed as unfit.

Other

Clean the grid filter

The grid filter in the feed water connection catches larger particles. If the flow is decreased or if Spirit makes a noise, the grid filter can be blocked.

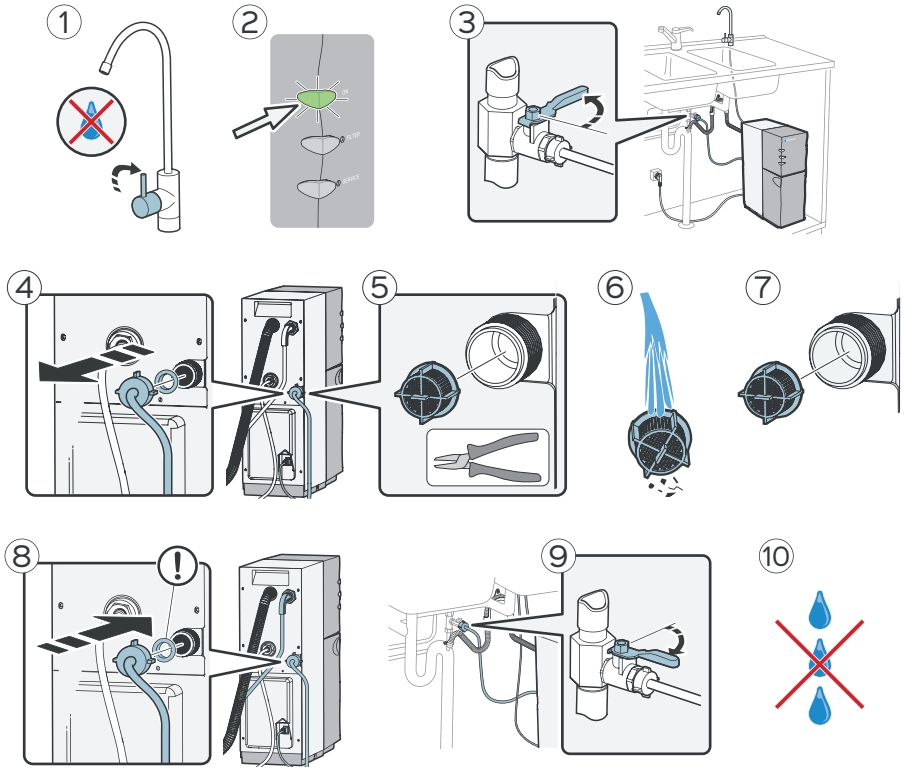

Figure 21. Clean the grid filter

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Disinfectant is harmful! Always flush the water purifier after disinfectant is used. See “Flush Spirit” on page 12.

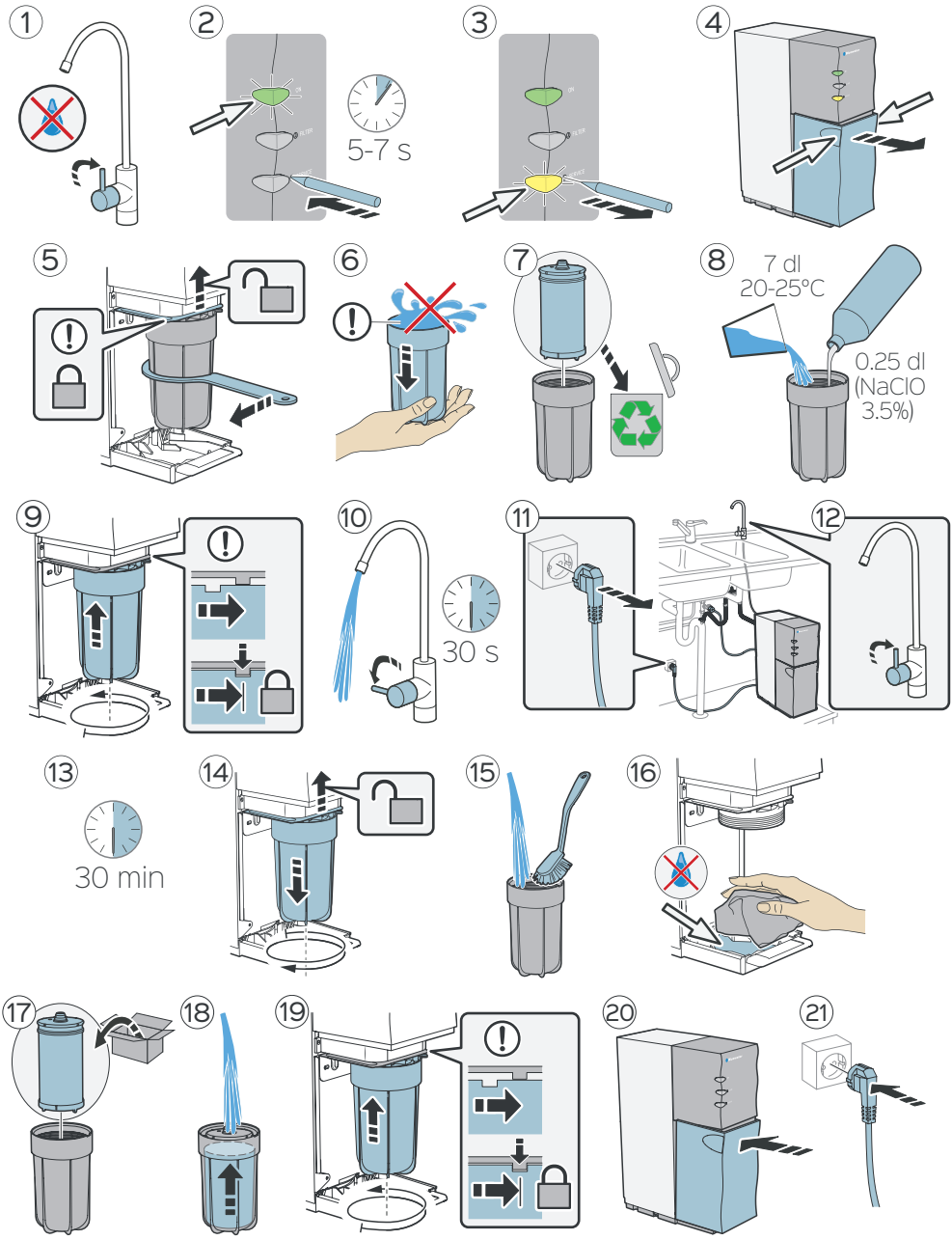

Figure 22. Use desinfectant to clean the system

Put the water purifier into storage if it will not be used for four months or more, or if it is to be disconnected from the water and electricity for some days.

Figure 23. Put into storage

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Preserving agent is harmful! Always flush the water purifier after storage. See “Flush Spirit” on page 12.

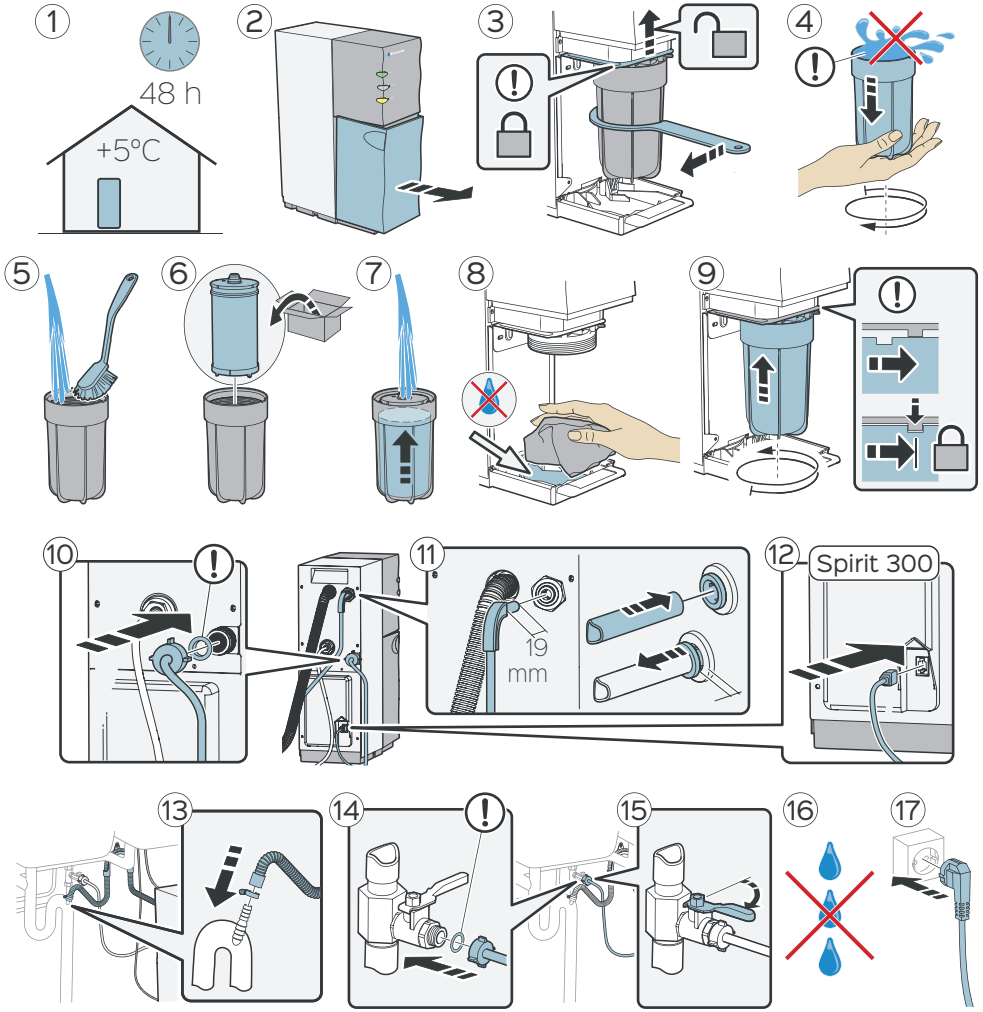

Figure 24. Reinstall after storage

TECHNICAL INFORMATION

Technical data

Parameter/Model	Spirit 300	Spirit 300Cp
Control	Electronically controlled	Pressure controlled
Size W×D×H [mm (inch)]	150×365×462 (5.9×14.3×18.2)	150×365×462 (5.9×14.3×18.2)
Weight [kg (lbs)]	15 (33)	15 (33)
Power supply, earthed supply Power supply, earthed supply US	230V 50Hz, 10A 115V 50-60Hz, 10A	230V 50Hz, 10A 115V 50-60Hz, 10A
Power consumption	3A	3A
Purified water flow rate [l/min (gal/min)]	2.5 ±0.5 (0.66 ± 0.13)	2.2 ±0.4 (0.58 ± 0.10)
Sound level (installed in undersink cupboard)	< 60 dB(A)	< 60 dB(A)
Faucet with water quality indicator light	✓	N/A
Power (US)	350W (3A)	350W (3A)
Recovery [%]	50-60	50-60
Rejection [%]	95-99	97-99
Start signal	Electrical	Pressure
On/off [bar (psi)]	-	3/4 (/)
Operation sequence (production/flush) [min]	max time 15	15 / 2.5
Reverse osmosis membrane type Spiral wound TFC (Thin Film Composite)	High Flow	High Rejection
Membrane size	3613C	3613C
Prefiltration	Granulated Active Carbon (GAC)	Granulated Active Carbon (GAC)
Activated by the pressure drop caused by a connected auxiliary applicance that consumes water unattended.		✓

Requirements on feed water to water purifier

Do not install the water purifier if the water is microbiologically unsafe!

Description	Spirit 300	Spirit 300Cp
Pressure [flowing bar (psi)]	1.5-10 (21.7-145)	1.5-10 (21.7-145)
Water flow [l/min (gal/min)]	> 6 (1.6)	> 6 (1.6)
TDS (Total disolved solids) [mg/l (ppm)]	< 1200 (< 1200)	< 1200 (< 1200)
Conductivity [µS/cm, 25 °C (77 °F)]	< 1600	< 1600
Temperature [°C (°F)]	2-35 (36-95)	2-35 (36-95)
Hardness [°dH (grains/gallon)]	~10 (~10.4)	~10 (~10.4)
Iron $Fe^{(II)}$/$Fe^{(III)}$ [mg/l (ppm)]	< 0.5/< 0.3 (< 0.5/< 0.3)	< 0.5/< 0.3 (< 0.5/< 0.3)
Turbidity [FNU]	< 0.5	< 0.5

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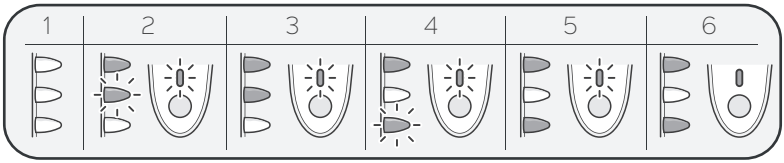
TROUBLESHOOTING



	Symptom	Cause	Solution
1	The ON light is not on.	The water purifier is not connected to power.	Connect the water purifier to power.
2	The filter light flashes, and the yellow light on the faucet flashes.	The filter must be replaced.	See “Replace prefilter” on page 14.
3	The filter light is on, and the yellow light on the faucet is on.	The water purifier has stopped. The filter must be replaced.	See “Replace prefilter” on page 14.
4	The service light flashes, and the yellow light on the faucet flashes.	The water quality has decreased.	Contact Bluewater to replace the membrane.
5	The service light is on, and the yellow light on the faucet is on.	The water purifier has stopped. A filter replacement has caused air to come into the system.	Disconnect the water purifier from power. Reconnect it. Let the water purifier do the automatic flush.
		The water purifier has stopped. The clean water quality has become too low.	Contact Bluewater to replace the membrane.
6	The service light is on, and the yellow and the green lights, on the faucet are on.	The water quality meter does not function.	Contact your Bluewater dealer.
	The water purifier makes noise, because the water pressure is not sufficient.	The inlet pressure is lower than 1.5 bar during operation.	Contact your Bluewater dealer.
		The grid filter is blocked.	See “Clean the grid filter” on page 17.
		The filter is blocked.	See “Replace prefilter” on page 14.
	The water purifier does not start.	The water purifier flushes water.	Wait for 5 minutes.
		The overflow protection system is activated.	Disconnect the water purifier from power, and clean the base plate. If the overflow protection is activated again, contact your Bluewater dealer.
	The flow rate from the clean water faucet is low.	The water purifier needs to be descaled.	See “Descale” on page 14
		The clean water hose is tensioned or jammed.	Make sure that the clean water hose can move freely.
	Water does not flow from the clean water faucet.	The feed water shut-off valve is closed.	Open the feed water shut-off valve.
	There is a bad smell from the water purifier.	Microbial growth in the water because the water purifier has not been used for a week or longer.	See “Use disinfectant to clean the system” on page 18.

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For a complete list of sales offices and dealers, please visit www.bluewater.se

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